mass and inflammatory markers than exercise alone. A reduction in body mass shared a dose-response relationship with improvements in knee compressive load, inflammatory markers, pain and function.
Conclusions: An updated literature search and discussion of the outcome measures commonly used to assess effectiveness of rehabilitation interventions will be presented.

I-17
OSTEOARTHRITIS YEAR IN REVIEW 2014: MECHANICS

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The purpose of this review was to highlight recent studies in osteoarthritis and mechanics, by presenting a range of basic, translational and clinical research findings. MEDLINE and EMBASE were systematically searched from January 2013 through to February 2014 using the key words osteoarthritis or OA combined with mechanic* or biomechanic* or mechano*. Two reviewers identified approximately 600 titles. 115 full text articles (including 30 reviews) were screened and considered relevant. Approximately 10 studies used animal models, 35 studies examined human gait biomechanics, and 40 were clinical studies that evaluated mechanical risk factors and/or interventions. Common, overlapping themes were mechanotransduction, dynamic knee joint loading, mechanical alignment, and biomechanically-focused clinical treatments. Four reviewers selected and summarized articles based on areas of primary interest and the proposed importance of findings.

I-18
OSTEOARTHRITIS YEAR 2014 IN REVIEW: IMAGING

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Purpose: This presentation reviews the original publications related to imaging in osteoarthritis (OA) published in English between April 2013 and March 2014. In vitro data and animal studies will not be covered.
Methods: To select relevant studies, an extensive PubMed database search was performed using the query terms "Osteoarthritis" in conjunction with "MRI", "Imaging", "Radiography", "Ultrasound", "Computed Tomography" and "Nuclear Medicine" for the above mentioned period. Papers were sorted according to relevance based on potential impact to the OA research community with the overarching goal of a balanced overview covering all aspects of imaging. The focus was on clinical studies published in high impact special interest journals that are widely accessible such as but not restricted to Osteoarthritis and Cartilage, Annals of the Rheumatic Diseases, Arthritis&Rheumatism, Arthritis Research&Therapy or Radiology. We excluded studies with n<20, review articles, studies focusing on cartilage repair or on other surgical therapy. The literature will be presented structured by the topics radiography, ultrasound, compositional MRI, morphologic MRI (including studies on treatment outcomes), joints other than the knee (hand, hip spine), muscle, bone changes (bone marrow lesions, bone shape, bone texture), meniscus, synovitis and others. Intentionally, original research that was or will be presented as a podium or poster presentation at OARSI 2013 or 2014 will not be part of this presentation.
Results: Using the search topics "MRI" and "Osteoarthritis" a slight increase in overall publications was observed during the 10 months since April 2013 when compared to the respective previous 10 months period from April 2013 through January 2013 (+ 6.2%, from 228 to 243). Using the terms "Radiography" and "Osteoarthritis" a decrease of 20.3% (462 vs. 580) was seen. Over a 5-year period studies published on MRI increased by 37% (from 153 to 243) while no clear trend was observed for radiography. Increasing analyses of publicly available MRI data, foremost based on the Osteoarthritis Initiative study, are one of the likely reasons to explain this trend. Few studies focused on radiographic measures only. However, radiography is still commonly used to define study samples and advanced radiographic technologies such as fractal signature analysis or refined joint space width measurements are being applied as predictive markers. Not many studies focused on ultrasound-based structural alterations and clinical manifestations or outcomes. Extensive research activities were focused on compositional MRI to assess ultrastructural changes primarily of cartilage but to a lesser extent also of other joint tissues such as the menisci. More studies than in previous years have focused on muscle metrics and several studies assessed bone morphology and its association on incidence and progression of OA. Bone shape appeared to predict later OA with associations stronger among knees that had completely normal radiographs before incidence. Multiple studies focused on the meniscus including associations of quantitative and semi-quantitative assessments, comparative quantitative analyses of knees with and without OA and on the association between reduced knee joint proprioception and medial meniscal abnormalities using MRI. Inflammatory structural disease manifestations are an on-going field of interest in the imaging community and here especially contrast-enhanced MRI shed new insights on associations of structural joint damage and degree of synovitis. Additional studies will be covered in the presentation but could not be included in this abstract.
Conclusions: The last 10 months since the last OARSI conference were characterized by a strong focus on MRI-based studies dealing with epidemiologic and methodologic aspects of disease. Bone parameters assessed using varying technology are increasingly coming into the focus of the imaging community and a persistent interest in inflammatory disease manifestations has been noted. Ultrastructural assessment using compositional MRI is evolving further but the predictive value of these techniques in regard to structural and clinical outcomes still needs to be shown. Further subsets of the large publicly available OAI MRI dataset are being analyzed and have been published with muscle analyses coming increasingly into the focus of the community. Other modalities than MRI have been less explored. To date most imaging research is still performed on the knee joint although there has also been a continued interest in spine, hip and hand OA since the last OARSI meeting.